Nursing Informatics 2014
K. Saranto et al. (Eds.)
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doi:10.3233/978-1-61499-415-2-18

Comparison of Consumer Derived Evidence with an Omaha System Evidence-Based Practice Guideline for Community Dwelling Older Adults

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Abstract. Consumer involvement in healthcare is critical to support continuity of care for consumers to manage their health while transitioning from one care setting to another. Validation of evidence-based practice (EBP) guideline by consumers is essential to achieving consumer health goals over time that is consistent with their needs and preferences. The purpose of this study was to compare an Omaha System EBP guideline for community dwelling older adults with consumer-derived evidence of their ongoing needs, resources, and strategies after home care discharge. All identified problems were relevant for all patients except for Neglect and Substance use. Ten additional problems were identified from the interviews, five of which affected at least 10% of the participants. Consumer derived evidence both validated and expanded EBP guidelines; thus further emphasizing the importance of consumer involvement in the delivery of home healthcare.

Keywords. Evidence-based practice guidelines; nursing care/problems; home care; consumer-derived

Introduction

Evidence-based practice (EBP), transitional care, and consumer engagement are three major foci in the changing landscape of health care. Due to the high cost of healthcare, a major reform effort focuses on community care settings, including continuity of care to avoid unnecessary duplication of services and prevent adverse events as patients move across different health care settings. Patients (consumers) are encouraged to be more active in their care and providers need to change their practices to increasingly incorporate consumers as partners in shared decision making. Continuity of care has being intensively investigated when patients are discharged from hospital setting to home because of the critical need to reduce re-hospitalization. However, little attention has been paid to consumers' perspectives on their ongoing needs and practices in managing their own health, particularly after discharge from home care to self-management in the community[1,2]. Moreover, the handoff from home care to ongoing

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community dwelling is a novel approach, as few studies have started address this issue in some way[2,3].

Nursing EBP is defined as the use of the best evidence in literature, combined with clinical expertise, and patient preferences and values to guide the foundation of health care decision making[4,5]. It is essential to incorporate into EBP guidelines the consumers' perspective of best care, preferences and values[6,7]. An EBP guideline for adults, containing 21 problems from the Omaha System Problem Classification Scheme was developed through synthesis of the latest scientific findings and validation by an international panel of experts[8,9]. The development of this EBP care plan was initiated first by identifying priority problems to address for community-dwelling elders in New Zealand and the USA. It evolved through subsequent synthesisis of scientific evidence by a variety of faculty, students, and community partners. This EBP guideline and its metadata are publically available for integration into personal health records and for use by clinicians[10].

The Omaha System is a standardized terminology that supports nursing practice and is recognized by the American Nurses Association[11] as well as listed in the US Department of Health and Human Services interoperability standards for electronic health records[12,13]. Additionally, it is integrated into the National Library of Medicine's Metathesaurus; CINAHL; ABC Codes; Logical Observation Identifiers, Names, and Codes (LOINC®); and SNOMED CT®. The Omaha System is recognized by Health Level Seven (HL7®) as a terminology capable of data capture and exchange which meets the data standards criteria for Meaningful Use[12]. It consists of three components, the Problem Classification Scheme, the Intervention Scheme, and the Problem Rating Scale for Outcomes. The EBP guideline mentioned above was developed using the Problem and Intervention Schemes[12,13].

1. Purpose

The purpose of this study was to conduct a secondary analysis of semi-structured interviews to determine consumer driven evidence from the perspective of older adults living at home and compare the findings with a previously developed EBP guideline for community-dwelling older adults.

2. Methods

In a previous study, we validated an EBP guideline for community-dwelling older adults with a national expert panel. The expert panel was composed of six researchers or practitioners with expertise in home care, geriatrics, and the Omaha System. The guideline was encoded using the Omaha System, and included 21 Omaha System problems[8,9]. We also conducted semi-structured interviews with a convenience sample of 30 chronically ill older adults after a recent discharge from home care to understand their ongoing needs, strategies, and resources for managing their health[8,9]. The convenience sample of chronically ill older adults was obtained from one homecare agency from a Midwest metropolitan area in the USA. Inclusion criteria were: age 65 or older, chronic illness as the primary reason for homecare, ability to participate an hour of interview physically and mentally, and ability to both speaks and understands English. All interviews were recorded and transcribed for analysis.

Participants were Caucasian (n=30) and predominantly female (n=27). Primary reasons for homecare were congestive heart failure (n = 9), other cardiac/ circulatory problems (n = 5), diabetes (n = 5), chronic respiratory diseases (n = 4), hypertension (n=3) and other chronic conditions (n=4).

The present study extended this research. After approval from the university and health facility Institutional Review Boards, interview transcripts were analyzed by the research team. Two investigators (BW and KM) with expertise in the Omaha System in practice and research provided training for two co-investigators (LP and HF) on the Omaha System, the EBP guideline for community-dwelling older adults, and background of the original study. A coding sheet was created in Excel using the EBP guideline to document the line number from each interview for identification of Omaha System signs and symptoms, problems, and interventions. Additionally, investigators tracked those who provided or were involved in the intervention: self, family/informal caregivers, or paid service. The first interview was coded by all investigators independently, followed by group consensus for agreement. Rules on inclusions and definition of code use were established for consistency. The next three interviews were coded independently by two of the investigators (LP and HF) and then validated by the senior investigator (BW). The remaining interviews were coded independently with regularly scheduled meetings to clarify questions and maintain coding consistency.

Data on identified problems were subcategorized as actual or as potential problems. Actual problems were identified by signs and symptoms. Potential problems were identified when there was an absence of signs and symptoms due to the fact that interventions were performed to prevent a problem from occurring.

3. Results

The Table 1 shows the Omaha System problems that were identified in the existing EBP guideline for community-dwelling older adults, and those that were new. The frequencies of patients are also shown, by whether they were having either signs or symptoms of a problem (actual problem) or interventions to prevent problems (potential problem).

The majority (18 of 21) problems from the EBP guideline were relevant for participants (exceptions were Neglect and Substance use). All participants had the Medication regimen and Personal care problems, and more than 90% had Neuro-musculo-skeletal function, Nutrition and Communication with community resource problems. Of the 42 Omaha System problems, 29 (69%) were identified during the analysis of these interviews. Ten of the participants had at least one new problem, when comparing to the problems present in EBP guideline. Of the new problems, Urinary function (20.0%) was the most common followed by Bowel function and Vision (13.3% each).

Table 1. EBP guideline problems identified with number of participants.

	Number of Patients			Percent of Patients
Omaha System Problem	EBP Guideline Problems	New Problems	Total	Total
Medication regimen	30		30	100.0%
Personal care	30		30	100.0%
Neuro-musculo-skeletal function	29		29	96.7%
Nutrition	29		29	96.7%
Communication with community resources	28		28	93.3%
Sanitation	25		25	83.3%
Circulation	20		20	66.7%
Pain	14		14	46.7%
Residence	12		12	40.0%
Mental health	10		10	33.3%
Income	9		9	30.0%
Health care supervision	8		8	26.7%
Respiration	7		7	23.3%
Skin	6		6	20.0%
Social contact	6		6	20.0%
Urinary function		6	6	20.0%
Bowel function		4	4	13.3%
Vision		4	4	13.3%
Cognition	3		3	10.0%
Oral health		3	3	10.0%
Caretaking/parenting	2		2	6.7%
Hearing		2	2	6.7%
Physical activity		2	2	6.7%
Sleep and rest		2	2	6.7%
Abuse	1		1	3.3%
Interpersonal relationship	1		1	3.3%
Grief		1	1	3.3%
Speech and language		1	1	3.3%
Neglect	0		0	0.0%
Substance use	0		0	0.0%
Communicable/infectious		0	0	0.0%
Consciousness		0	0	0.0%
Digestion-hydration		0	0	0.0%
Family planning		0	0	0.0%
Growth and development		0	0	0.0%
Neighborhood/workplace safety		0	0	0.0%
Postpartum		0	0	0.0%

Pregnancy	0	0	0.0%
Reproductive function	0	0	0.0%
Role change	0	0	0.0%
Sexuality	0	0	0.0%
Spirituality	0	0	0.0%

4. Discussion

The majority of the problems in the consumer derived evidence were consistent with the EBP guideline for community-dwelling older adults; however additional problems were also derived from consumer interviews. The most frequent problems experienced by older adults were related to their personal care and household management needs (Personal care problem). The use of community resources (Communication with community resources problem) can be strongly associated with the general problems related to the physical limitations that the advanced aging cause in the human beings. The need to manage Medication regimen, Neuro-musculo-skeletal function, and Nutrition problems may also represent a consequence of the advanced aging and we can assume that some problems are part of the elderly daily living.

The identification of new problems supports the need for EBP guidelines to be validated by consumers, not only by experts. Future revisions of the EBP guideline should take into account the new problems identified in this study (Urinary function, Bowel function, Vision, Oral health, Hearing, Physical activity, Sleep and rest, Grief, and Speech and language). These results reinforce the need for a comprehensive geriatric assessment in addition to focusing on priority problems at the time of discharge from home care and providing support for continuity of care. It is interesting to note, however, that the perceptions of older adults themselves may differ from clinicians. Few or no participants identified problems with: Abuse, Interpersonal relationship, Grief, Speech and language, Neglect, or Substance use. While these problems are important, the low frequency of participants having these problems supports the need to include both clinician and the older adults' perceptions of their needs.

Our study suggests that some problems present in the Omaha System may not be relevant when caring for older adults. This is congruent with the consensus validation by the panel of experts in the previous study that provided the EBP guideline for community-dwelling older adults[8]. These findings provided the necessary resource to the authors in order to update the evidence base care plan for older adults with new interventions from those validated problems.

The findings from this study are consistent with another study which identified four key areas to access in order to have successful home care rehabilitation: cognitive impairment, depressed mood, sensory impairment, and incontinence[14]. Omaha System problems related to these diagnoses are Cognition (cognitive impairment), Mental health (depressed mood), Urinary and Bowel function (incontinence) and Vision (sensory impairment)[14]. The findings of this study also have implications for the use of standardized terminologies with consumers as well as healthcare practitioners.

Further research is needed to identify the specific unmet needs of community dwelling older adults after homecare discharge, and to revise and extend the EBP guideline for community dwelling older adults so that it can be used by practitioners as

well as families and consumers. Additional research is needed to evaluate if the EBP guideline and the Omaha System could be used as the basis for communication between consumers and healthcare professionals.

Limitations to this study include limiting sample of one home care agency and Caucasian participants. Another limitation of the study was related to the secondary analysis of the data. Although this approach provided a rich resource for consumer derived evidence to compare with an EBP guideline, the original interviews were not related directly to this study purpose and were conducted by a research assistant who often did not follow up on cues related to emotional challenges. Therefore, results may underrepresent the importance of these issues. This was particularly evident with when a participant indicated they were depressed or dying and the subject was changed without response to the patient. Therefore, it is possible that some statements were misinterpreted. Thus, future research is needed to expand consumer derived evidence representing diverse patients representing various economic, geographical, and racially rich populations.

5. Conclusion

In summary, consumer derived evidence can validate and expand on EBP guidelines to assure that they support consumer involvement in addressing what is important from their perspectives. Our study also provides a direction of problems that could be added to the EBP care plan. The terms of the Omaha System should be evaluated for use by consumers and families to facilitate consumer-provider communication.

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